four hours, subcultures were taken from heart's blood and joints and rabbits were inoculated intravenously. From 1 to 6 inoculations were required to produce fatal results in different animals and when death ensued immediate autopsy was performed and subcultures of organisms obtained from definite lesions were perpetuated for possible later therapeutic use. In 4 cases definite vegetative endocarditis was developed in the rabbit and the infective organism in three of these was from tonsil while the fourth was from teeth. Eight animals manifested acute swelling of joints with definite crippling. The brain of the animals showed only engorgement of the pial vessels. Ten children with healthy throats were cultured as control cases and from only three of these were streptococci grown and not one of these was pathogenic for the mouse. An attempt was made to determine some method for therapeutic usage of the virulent organisms. However, in all attempts the results proved negligible. The author was able to prove satisfactorily that members of the streptococcus group may be isolated from the pathological lesions in endocarditis, articular rheumatism and chorea. He found also that the percentage of virulent streptococci about the teeth and in tonsils of chorea patients is much higher than in normal throats.

HYGIENE AND PUBLIC HEALTH

UNDER THE CHARGE OF
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Possibilities of Using Mosquito Traps in Antimalaria Work.—Metz (*Public Health Reports*, 1920, xxxv, 1974) states that the control of malaria is rapidly becoming a rural problem as the expensive mode of eradication applicable to urban communities cannot be applied to country districts under present economic conditions. The writer noted that Anopheles were attracted by pigs and a pen was devised which served as a trap, allowing the mosquito to enter but not to emerge. It is suggested that a chemical agent might take the place of the pig and that the whole subject is worth full study.

Necessity of Low Temperatures for the Preservation of Vaccine Virus.—The Public Health Service (*Public Health Reports*, 1920, xxxv, 1762) publishes a warning against keeping vaccine virus under unfavorable temperature conditions. It is pointed out that the virus should be kept in contact with ice during the summer period and at a low temperature at all times. Special refrigerating devices are recommended for shipment in hot weather. Vaccine virus should not be carried in the doctor's vest pocket. A few hour's summer heat may destroy the viability of the vaccine. The chief cause of negative takes during the summer season is failure to keep the virus cold.

Mosquitoes and Bats.—It appears according to HOWARD (*Public Health Reports*, 1920, xxxv, 1789) that the insect-devouring habits of bats are being employed to reduce the mosquito nuisance in some sections of this country. The warning is issued that this method of mosquito control is on a purely experimental basis and not to be depended on unless further controlled work shows the practicability of this method.

Soaps in Relation to Their Use for Hand-washing.—NORTON (*Jour. Am. Med. Assn.*, 1920, lxxv, 302) states that sterile hands are not obtained in the ordinary process of hand-washing. More bacteria were found to be removed by the ordinary toilet soaps than by the special soaps. In other words the cleansing properties of a soap are more important than its "germicidal" or "antiseptic" constituents. The soap solutions obtained in hand-washing are of no practical germicidal or antiseptic value. The soap left on the hands after washing has no germicidal action. In the whole process of hand-washing done in the usual manner the special so-called "germicidal" or "antiseptic" soaps exhibit none of these properties. Therefore, these terms are not proper to use in connection with soaps. Finally, since the hands may serve as a medium for the conveyance of bacteria in infectious diseases it is important to remove these bacteria; this may be done by the ordinary toilet soaps as effectively, if not more so, as by the special brands of so-called "antiseptic" or "germicidal" soaps.

The Value of Prophylaxis Against Venereal Diseases.—MOORE (*Jour. Am. Med. Assn.*, 1920, lxxv, 911) states that the low annual incidence rate of venereal disease during the war was due to several factors which have been discussed in recent communications. The various methods employed, however, would have accomplished less satisfactory results had it not been for the use of prophylactic measures. During 1918–19, as consultant urologist to the District of Paris, the writer was able to study the results of prophylaxis on a large scale. He states that Ashburn concludes that the measures employed in combating venereal disease were effective in this order: (1) Those that keep men chaste; (2) those that diminish the opportunities for sexual contact, especially efforts at the suppression of prostitution; (3) those that diminish the dangers of contact, especially venereal prophylaxis: (4) those that exact punishment. The method of prophylaxis used was as follows: Under no circumstances was a patient (even an officer) allowed to administer the treatment to himself; it must always be done by the attendant. If for any reason the attendant was unable to employ the treatment exactly as directed, he must state the reasons therefor and the deviation adopted on the prophylactic record. As a first step the patient was instructed to urinate. Then he was provided with a pint of warm water in a basin and a gauze wipe, with which he washed thoroughly, while the attendant dropped liquid soap on the penis. An examination of the genitalia was made; if the patient had a discharge or a genital sore the fact was noted on the record and the patient instructed to report to the clinic; but this was as far as the attendant was allowed to go in making a diagnosis. He must continue the treatment as usual. The next morning, on receipt of the records at the clinic, all such records were separated from the others and the commanding officer of the patient's organization requested to have him report for examination at once. The next step was the injection of 1 dram of a 2 per cent. protargol solution (freshly made twice a week and kept in a closely stoppered bottle to avoid deterioration) into the urethra by the attendant. The patient then held the meatus firmly between the thumb and forefinger for five minutes, from time to time allowing a drop to escape from the meatus, so that all parts of the urethra were in contact with the solution. At the end of five minutes, the protargol was allowed to escape without pressure, so that a few drops remained. One-half dram of 33⅓ per cent. calomel ointment was next rubbed thoroughly by the patient, under the observation of the attendant, into all parts of the penis for five minutes, special attention being paid to the retracted prepuce, the frenum and the glans. Finally the penis was wrapped in toilet paper to protect the clothes and the patient instructed not to urinate for four or five hours. Throughout, the strictest precautions as regards sterility of syringes by boiling was maintained to prevent transfer of infection from one patient to another. So far as the district of Paris was concerned the use of the prophylaxis was the largest single factor in the prevention of venereal disease. With Ashburn's figures on the relation of exposure to disease as a basis for argument it is estimated that 2571 new cases of disease were prevented. The method of prophylaxis described is calculated to make the treatment more efficacious. The statistics presented show that prophylaxis is 99.6 per cent. efficient in the circumstances under which Moore employed it. Prophylaxis is probably equally efficacious against all three venereal diseases.

High Incidence of Typhoid in Small Epidemic.—LEAKE and MESSER (*Public Health Reports*, 1920, xxxv, 2197) observed an epidemic of typhoid fever due to an infection of a salad served at a banquet at which 49 among 90 diners developed the disease, making an incidence of 54 per cent. Many cases were atypical and a considerable number occurred among persons who had been vaccinated against typhoid or who had previously suffered from the disease. The source of infection was a woman in the early stages of typhoid fever who had prepared the mayonnaise dressing used on the chicken salad.

A Comparative Study of State Regulations for the Control of Influenza. FEEZER—(*Public Health Reports*, 1920, xxxv) collected data on the subject discussed by means of a questionnaire and presents the following summary of conclusions: (1) Great divergence of practice exists on practically all features of influenza control as represented by the regulations and other measures which are in force throughout the country. (2) It is noticeable that 97.5 per cent. of the forty states considered require some system of reporting. The reports are made to the local health officer in 74.4 per cent. of these states; to the state health officer in 12.8 per cent.; and to both in 12.8 per cent. The method is the same in 92.3 per cent., namely, by mail. (3) There is a great division in practice in quarantine methods, also in regard to placarding. (4) A noticeable fact with regard to the closing of public places in time of epidemic is a tendency to shift the responsibility to the local health authorities. A number of comments which were received in addition to the straight answers to the questions indicated a growing inclination to the view that closing is useless. (5) On the matter of public funerals the practice is fairly equally divided. (6) Relative to the use of serum, it is very clear that public health authorities, almost without exception, are unwilling to undertake the responsibility of making any recommendations whatsoever.

Studies of Reconstructed Milk.—Stevenson, Peck and Rhynus (*Public Health Reports*, 1920, xxxv, 2011) present the following summaries of the study: Under manufacturing and handling: (1) Reconstructed milk and cream made from skimmed milk powder, unsalted butter, and water have been produced in large quantities at Nitro, W. Va., and sold to the public. (2) The cost of manufacturing these products in the Southern States is less than the cost of local normal milk. As the distance between the points of efficient production and consumption is lessened, this difference in cost becomes less. In the dairy sections at the present time fluid milk can be sold more cheaply than reconstructed milk. (3) Reconstructed milk products serve as excellent emergency supplies, and as soon as the process of manufacturing milk powder is perfected they will no doubt compete in the open market with normal milk products. Under the analytical study: (1) Studies of the bacterial content of this plant's output of reconstructed milk and cream show that it was satisfactory from a health standpoint. (2) It has been demonstrated that satisfactory ice cream can be manufactured on a commercial scale, with a bacterial content comparable to that of well-pasteurized milk and cream. (3) Using the revolving coil type of ice-cream batch mixer for mixing the ingredients entering into reconstructed milk, a product of homogeneous fat content cannot be made, and the final product from an entire batch should be mixed before bottling.

Sunlight in the Sterilization of Tuberculous Sputum.—Técon (*Paris méd.*, 1920, x, 33) placed sterilized sand, gravel and dust on a terrace with southern exposure at Leysin, Switzerland, and dropped upon it sputa from consumptive patients, previously examined for tubercle bacilli. Meteorologic data were recorded at short intervals throughout the experimental period. Sputa thus exposed to the mountain sun in the summer for periods of from two to over fifty-two hours—the experiment in the latter case extending over nine days—all gave positive results when subsequently inoculated into guinea-pigs; in some instances, however, the onset of tuberculous disease was considerably delayed. All the experiments but one were conducted in cloudless weather. In another series of tests sputum was exposed to the sun on beaten snow. In these tests the sputum was regularly rendered sterile in less than twenty-nine hours. The marked discrepancy between the temperature by day and night in this series is thought to have been a factor in the sterilization, but there are other possible factors, such as reflection, ultraviolet rays, etc. In one experiment sputa from the same patient and with approximately equal bacterial content were exposed simultaneously on snow and on the above mentioned reproduction of an ordinary footway. After twenty-three hours of isolation on the latter medium the sputum gave positive results in guinea-pigs, while after like exposure on beaten snow inoculations were negative. This shows that the difference between temperatures by day and night cannot be the sole factor in the more rapid sterilization upon exposure over snow. The general conclusion from the experiments is that the sterilizing value of sunlight on tuberculous sputum discharged upon public highways is practically negligible in the summer time; it is more marked on sputum discharged on mountain roads during the snowy season.

The Effect of Shaking Alkalinized Aqueous Solutions of Arsphenamin and Aqueous Solutions of Neoarsphenamin in the Presence of Air.—Roth (*Public Health Reports*, 1920, xxxv, 2205) showed experimentally that shaking solutions of arsphenamin and neoarsphenamin in the presence of air led to marked increase of toxicity of the drugs. Preparations which are difficultly soluble should, for this reason, not be shaken as a dangerous increase in toxicity may result. Warning is given against preparing solutions in a mortar or large beaker as is sometimes practised.

Bacteriologic Characteristics of Tubercle Bacilli from Different Kinds of Human Tuberculosis.—Griffith (*Jour. Pathol. and Bacteriol.*, 1920, xxiii, 129) states that the main objects of his investigations were (1) to determine by the examination of unselected cases the relative proportions of the human and bovine types of tubercle bacilli in different kinds of human tuberculosis, and (2) to ascertain the frequency of occurrence and the distribution in the human body of variant strains of tubercle bacilli. Of 1068 persons examined, 803 showed human bacillus infection, 194 bovine bacillus infection, and 5 a mixed infection. Of various regions involved the examination showed that bovine infections occurred as follows: Bones and joints, 19.7 per cent.; genito-urinary organs, 17.65 per cent.; cervical glands, 46.3 per cent.; meninges, 20 per cent.; scrofuloderma, 34.65 per cent.; lupus, 48.9 per cent. As to the age periods, bovine infection occurred as follows: During the first five years of life, 37.55 per cent.; from five to ten years, 29.45 per cent.; from ten to sixteen years, 14.66 per cent.; after sixteen, 6.25 per cent.

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